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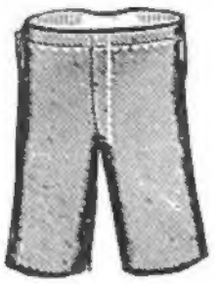

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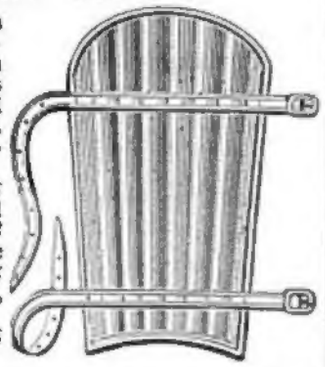

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SANDOW'S MAGAZINE

— OF —

PHYSICAL CULTURE & BRITISH SPORT.

Edited by EUGEN SANDOW. Assisted by FRANK PINK.

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NOTICES.

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EDITORIAL.—I am always pleased to receive Contributions, Literary and Pictorial, for consideration. Where payment is desired, the Contribution should be accompanied by note of amount required. Prompt consideration will be given and an early reply forwarded.

NOTES FROM MY NOTE-BOOK.

BY THE EDITOR.

There are few football writers' opinions that I read with greater respect than those of Mr. J. J. Bentley, but while I agree with him that the modern footballer is scarcely so dashing and to a great extent lacks the *verve* of his predecessors of the eighties, I should, however, be very sorry, as Mr. Bentley evidently desires, to see the old and dangerous practice of charging the goal-keeper revived. It was the cause of many a serious accident in the olden days, and I know at least two men who in this way received injuries for life.

o——o

After all, it is the ball and not the man which should be gone for in the Association game. The old style of charging down a man, as a bullock would, was at best a brutal spectacle, and weight counted for more than skill. The lot of a goal-keeper in those days was scarcely less dangerous than that of a sentry at the mercy of the Afridi snipers.

o——o

I can quite realise "how exquisitely enjoyable it was to rush headlong and catch a stout goal-keeper in a soft part of his body," as Mr. Bentley expressively phrases his delight, but I should very much like to hear the stout goal-keeper's point of view. I rather think he would echo the sentiments of the frogs in the fable.

o——o

Is poor old Tommy Atkins played out? According to the latest recruiting returns more than 55 per cent. of the men attested are discharged within three months, chiefly on medical grounds. This is an alarming state of affairs, and shows the importance of making physical culture a great national movement:

Ill fares the land, to hastening ills a prey,
Where wealth accumulates and men decay.

o——o

Judging by the physique of a company of regulars I saw the other day in the City, the men who were discharged on medical grounds must, indeed, have been a very "weedy" lot. With a few exceptions, a course of physical culture would have not been wasted even on those who had satisfied medical requirements.

o——o

It is interesting to note in connection with the visit of the New Zealand

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football team to this country (writes my New Zealand correspondent) that exactly thirty-five years ago the first Rugby football match was played in New Zealand. The opposing teams represented the towns of Wellington and Nelson, and the spectators numbered twenty.

o——o

What a contrast between that humble beginning and the "gates" our visitors are now drawing in this country! By the way, I think it would be a good idea if the management of local football grounds would copy the methods of keeping the public in touch with the scoring by the erection of scoring boards, as is at present done "down under." At all big matches in New Zealand, a large board is erected, something like this fashion:—

New Zealand.	Scotland.
Tries	Tries
Goals	Goals
Points	Points
Last Scorer	Last Scorer

o——o

Some idea of the enthusiasm shown towards Rugby football in New Zealand may be gathered from the accompanying extract from the *Auckland Weekly News*, re last year's Auckland v. New Zealand contest:—

"The city had talked of little else for a week or more. Men in factories and offices had worked overtime night after night in order to have Saturday free for the game. The goldfields of the Hauraki Peninsula sent thousands of people. Most of the upper fields were almost denuded of their inhabitants. Bushmen and gum-diggers, fruit-growers and cattlemen swarmed into Auckland from the far north and mingled with farmers from Waikato and pioneer settlers from the limestone hills of the King Country."

o——o

I am pleased to say that the success of our visitors has given a much needed fillip to the game over here, and the *Bystander* hits off the situation nicely, as follows:—Mr. Bystander: "You look worried, John; what is it? Unemployed? Army? Trade?" John Bull: "No. I can't for the life of me make out who to put in the half-back line against New Zealand."

o——o

It has been left for a Parisian paper to discover the real secret of the New Zealander's success. "The Colonials," says *Les Sports*, "eat freshly-killed mutton, as in France, while Englishmen devour the same sheep after 'he' has been preserved frozen for six months." After this, the New Zealanders might be aptly nick-named "the Trotters."

o——o

It is distinctly unfortunate that the National games of America are not the same as ours. American football is a sort of brutalised English Rugby, whilst there is a much wider difference between the Yankee baseball and British cricket. An English team under Vivian Woodward, the 'Spurs' famous centre, has made a successful tour in the States, and in view of the growing disfavour of the American football game there is some hope of English soccer being taken up. President Roosevelt's son was recently injured in a game of American football, and is now in favour of the English game. What a draw would be an All-United States team in the final of an International Cup Competition at the Crystal Palace!

o——o

The United States' President's prowess as a bear hunter recently gave rise to an amusing incident. He was on a visit to the town of Raleigh, and in one street was displayed a stuffed bear, on which was displayed a placard with the words, "The only bear in town. Take a shot, Teddy." President Roosevelt saw it and had a hearty laugh, in which the crowd joined. Commenting on this, "Town Topics" remarks: "The President *can* laugh with the crowd. Most public men so soon become machines. They can't laugh 'way down' to the toes for fear the gearing will slip out of the cogs."

Eugen Sandow.

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THE EDITOR
In one of his poses plastique.

IS EXERCISE NECESSARY?

By EUGEN SANDOW.

The following is a reply to an article under the above heading by Mr. Eustace Miles, which appeared recently in the columns of "The Daily Mail."

ANYTHING that comes from the pen of Mr. Eustace Miles on the subject of exercise and health is invariably interesting, but I must confess that his recent article in the *Daily Mail*, under the above heading, gave me a shock of surprise. For a man who has himself always been a stickler for conscientious and consistent training to suddenly deny its necessity, is a conversion, or, should I say perversion, that has both astonished and puzzled me. To contend that the result of his own experience of a month's abstinence from exercise disproves a universally accepted law, and upsets the generally recognised theories of the experts, is a deliciously naive piece of egotism on his part.

To generalise from individual cases in such a matter is an error into which I should not have imagined Mr. Miles would so readily have fallen. Men cannot be aggregated like so many machines. The contention advanced by Mr. Miles is that, because a month's abstention from exercise proved beneficial in his case, it is not necessary for anyone in a "normal" state to exercise daily, or even regularly, in order to remain in that condition. The danger of generalisation is at once apparent here.

In the first place, how long will a man without regular exercise remain in a normal condition? Some men will do so for a considerable period, others will quickly run to flesh, and others, again, will soon find their vital force being depleted. A slim, wiry runner, for instance, of the type of Luther Myers, who, it may be said, "ran on his nerves," could do with much less work (or, in fact, occasionally dispense with strict training methods altogether) than a runner of lymphatic temperament with a tendency to obesity, as, say, Charles Bradley. For a man of the latter type to dispense with training for a month, unless he had trained too fine, would be simply to court disaster. But, in every case, a man whose whole body has been thoroughly developed, and whose organs have been kept in proper working order by scientific physical exercise, will always have an advantage over the imperfectly developed athlete.

When a man has, in the shibboleth of the athletic arena, trained too fine, a month's rest would be decidedly beneficial, and this, I take it, was the state of affairs in Mr. Miles' case. Under the circumstances, I should not have been surprised if he had even played a better game of racquets at the end of his period of rest than before.

I have frequently seen athletes, who have "trained stale," return to the arena, gymnasium, or school of physical culture after a short rest, and, at the first attempt, surpass all their previous records. Any professional billiard player will tell you that a short absence from the table every now and again improves their play to the extent of several points in a hundred. But, when preparing for a match of any importance, regular, daily practice is always the strict rule. A man who, like Mr. Miles, has been in the habit of taking a certain amount of physical exercise every day for a period extending over many years, is in a condition to be benefited by a holiday cessation from work occasionally, but the fact that he can go for a whole month without exercise and still retain his fitness and stamina is, in my opinion, the strongest possible evidence of the value of consistent training.

When an athlete reaches the perfect stage of physical development, he may dispense with exercise, because, by sheer unconscious control of mind and muscle, he retains his all-round fitness. And here let me explain, as briefly as possible, my views on perfect physical development.

There are four stages towards physical perfection, and I speak from the vantage point of a wide experience of the thousands of cases which have passed through my hands. In the first stage, I find that the use of apparatus is necessary in order to secure concentration of mind, and the harmonious co-ordination of muscle and brain. The second stage having been reached, a man may dispense with apparatus, having acquired the ability to consciously employ both mind and muscle on any exercise. Later on, the muscles having become so closely in sympathy with the will power, he can effect a sub-conscious exercise of muscle without set movements, whilst, in the final stage—the very highest form of physical perfection—it may become an unconscious habit of the system to keep the muscles and every organ and function of the body in perfect condition, so complete is the co-ordination of the mind and matter. This desirable consummation is possible to anyone who conscientiously carries out my system of physical culture.

It should be remembered that physical culture must always be regarded as having for its object the storing up of vital energy for times of emergency, just as the prudent business man creates a reserve fund to meet any contingency that may arise. Exercise should aim at developing potential power as well as kinetic energy, and that is why I so earnestly advocate physical culture.

It is this reserve power, created by scientific physical culture, that has enabled the New Zealand footballers to retain their form so consistently and achieve so remarkable a series of victories. Regular, intelligent, and scientific exercise of all the muscles of the body, and not merely of those necessary for a football game, is the secret of their success. Would Mr. Miles, I might ask, argue that a team of English amateurs, practising in the spasmodic and unsystematic way he suggests, have the slightest chance of victory over a scientifically and consistently trained fifteen like our present visitors from New Zealand?

The results of the matches already played between the New Zealand team (the members of which look after their bodies apart altogether from football) and our home teams (the majority of whom only train in the casual, intermittent way advocated by Mr. Miles) is the strongest evidence of the value of physical culture. These men have already gone through a very severe test, and will, I believe, retain their form to the very end of their tour.

It is evidently quite as difficult for Mr. Miles to keep the matter of diet out of any article he writes, as it was for Mr. Dick to keep King Charles' head out of his petition. It appears to me there must be something radically wrong in any system that necessitates such extreme fastidiousness in regard to diet. The stomach of a healthy and perfectly developed man should create its own laws of supply and demand, and there appears to me a certain quaint humour in the spectacle of an athlete having to regulate his diet by decimal fractions of the rules of proportion. In my methods of physical culture, I develop every muscle in the human body, including the muscles concerned with the process of digestion, and, in this way, I enable my pupils to enjoy and appreciate the good things on the table without self-denying restrictions, or any morbid fears of subsequent pains and penalties.

ACCORDING to Combe, boys born in the months of September, October, November, December, January and February are not so tall as those born in other months. Those born in November are the shortest. Those born in July are the tallest.

A NEW YORK physician advances the theory that much of the dyspepsia which Americans are subject to results from sitting with the legs crossed. Still another physician in Philadelphia attributes appendicitis to the same cause. It is certain that no other nation is so troubled by these dreaded ailments as America, and whether they are due to leg crossing or not, the habit of itself is a vulgar one.

Hot-Air and Vapour Baths.

By C. M. ROBINSON.

AS a medium for preserving health and curing disease, nothing has yet been discovered that so quickly causes the different organs to assume their normal condition as the hot air when properly applied. The great trouble heretofore has been a lack of knowledge pertaining to the action of heat upon the human system.

WEAKENING.—It is surprising how many people have the absurd idea that a vapour or hot-air bath is weakening. You ask them why it is weakening, and the only answer they can give is that they always had the impression that it was. It is to be regretted that the average physician has the same impression, but he cannot tell you how or where he got it. This impression comes to people about the same as the impression that Friday is a very bad day to start on a journey. Probably some of our ancestors met with an accident on a certain Friday. Doubtless weak persons have remained in a Turkish bath too long, which has a debilitating effect for the time being.

SIMPLY THEORY.—The physician will often tell a patient that he cannot take a hot-air bath until he gets well and strong. This is the most absurd idea that could enter the mind of any intelligent person, and shows how little such a physician knows about the treatment of patients in sanitoriums and water cures. Many physicians who are so lavish with their advice and knowledge of the hot-air bath never took such a bath themselves, never gave one to a patient, and never saw a hot-air bath administered. At many of the best water cures, the very first thing that is done with patients is to give them a sweat to open the pores of the skin, letting out the impurities and uric acid. When the patients are not able to sit up, some method is used to sweat them in bed.

Now, we do not want it understood that when we speak of the limited knowledge of physicians concerning the hot-air bath, we mean *all* physicians; we simply mean the physicians who are not posted in this hygienic treatment.

Within the past two years a great change has taken place in the minds of progressive physicians concerning the power of heat as a means of preserving health and curing disease. To our personal knowledge there are from forty to eighty leading physicians in every large city using the hot-air bath on their own families and recommending it to their patients. We will take the bold step of making the assertion that there has never been a single case where a physician took up this line of treatment and then condemned it after giving it a faithful test.

Adverse criticism is always due to ignorance or jealousy. There are three classes of physicians. The first class are progressive; always anxious to gain any knowledge that will prevent disease, and always free to advocate hygienic methods. The second class are progressive in securing knowledge, but will never use hygienic measures outside of their own families for fear of injuring their practice. They don't want people to learn too much about treating themselves, as they claim it hurts their practice. The third class are already too wise; they argue that whatever they did not learn at college is not worth knowing. Possibly their fathers were physicians, and they did not bother to experiment with anything that they never used; they have been taught to cure disease with medicine, and if medicine will not cure, it is the fault of the patient and not the medicine.

The more progressive and intelligent people become, the more confidence they will place in themselves concerning the care of their own bodies.

ROMAN BATHS.—We can learn valuable lessons from the ancient Romans. It is conceded by all who have studied Roman history that as a race the Romans took the lead as far as physical strength and endurance was concerned. Now, what did the Romans think of hot-air baths? Go to Rome, and view the remains of the old Roman baths, and you will be amazed at their gigantic proportions. Think of a building fifteen hundred feet square used exclusively for hot-air and vapour baths. This building covered the same

amount of ground that twenty-five regular squares cover in any of our American cities. Three thousand people could be accommodated in one day in this one bath. But this is not all. There still stands the remains of three such baths, and the writer was informed by his guide in Rome that at one time Rome had eleven similar institutions. The old Roman bath was the same as what is now called the Turkish bath. It is estimated that at least ten thousand people a day took these hot air baths in the city of Rome alone, and outside of Rome provisions were made for giving the baths wherever the Roman army was stationed, and where there were Roman settlements. As far north as Bath, England, an old Roman bath of gigantic proportions has been unearthed. It is a fact that the Romans relied on the hot-air bath for preserving health and producing strength, and to a person who has given this matter careful study and investigation, it sounds very absurd to hear people remark that hot-air baths are weakening.

JUDGMENT AND GOOD SENSE.—We do not mean to insinuate that an invalid can stand the same rigorous treatment that would be given to a strong healthy person. If a patient is weak every precaution should be taken not to "over-do the thing the first time." The feet should be put in hot water, hot drink given freely before going into the bath, and while in the bath the patient should take a swallow of cold water often and have someone bathe the face in cold water. The first bath should be of short duration; if the patient is weak, from three to five minutes is sufficient. The body should then be sponged with tepid water, wiped dry, and rubbed well in cocoa butter. The patient can then retire feeling greatly refreshed, and assured that he lost nothing but a deposit of effete matter and poison which was lodged in the skin. If people who are not invalids would take the bath once a week, and keep the bowels and stomach in a healthy condition, they would never have any use for drugs or stimulants.

J. ATHLONE (of "THE ATHLONES.")

CHEERFULNESS.

By M. B. LUST.

OVER and above every other social trait stands cheerfulness.

And if we are contented and cheerful all Nature smiles with us; the air seems more balmy, the sky more clear, the trees have a richer foliage, and the flowers a more fragrant odour; the birds sing more sweetly, and the sun, moon and stars all appear more beautiful.

Cheerfulness! How sweet in infancy; how lovely in youth; how saintly in age! There are a few noble natures whose very presence carries sunshine with them wherever they go, a sunshine which means pity for the poor, sympathy for the suffering, help for the unfortunate, and benignity towards all.

How such a face enlivens every other face it meets, and carries into every company joy and gladness! On the other hand, where one always looks on the dark side, there is no joy in their heart, no nobility in their soul, no generosity in their nature. Look at the bright side; keep the sunshine of a living faith in the heart. We must not let the shadow of despair fall on our path. However weary we may be, the promises of God will never cease to shine like the stars at night, to cheer and strengthen. We must learn to wait as well as labour. The best harvest is longest in ripening.

Be cheerful; it is the only happy life. The times may be hard; it will make them no easier to wear a sad countenance. It is the sunshine, not the cloud, that makes the flowers. There is always that around us which should fill the heart with warmth.

The sky is blue ten times where it is black once. Everyone has his own troubles: none are free from them. Perhaps it is as well that it should be so. They may give tone to our lives, fortitude and courage to us.

That would be a dull sea, and the sailor would never get skill, where there was nothing to disturb the surface of the ocean. It is the duty of everyone to extract all the happiness and enjoyment he can, and, above all, to look on the bright side and cultivate what is warm and genial.

We always know a cheerful person by their hearty "Good morning." We should say it to our parents, brothers and sisters, to everyone, and say it cheerfully and with a smile; it will do you good, and also your friends. There is a kind of inspiration in every "Good morning" heartily and smilingly spoken, that helps to make hope fresher and work lighter, and so it is of all cheerful greetings. They cheer the discontented, rest the tired one, sometimes make the wheels of time run more smoothly, and help to brighten someone's life.

We have known people whose influence within we have felt cheerful, amiable, and hopeful equal to anything! Oh, to be able to diffuse around us an atmosphere of cheerfulness, piety, truthfulness, and generosity!

It is not a matter of great talent, but rather of earnestness, and of that quiet, constant energy, which is like the soft rain gently penetrating the soil.

It is rather a grace than a gift, and we all know where all grace is to be had freely for the asking.

Some generous-hearted beings there are who seem to devote their lives and to desire their principal enjoyment in ministering to the happiness of their kind: these are joyous spirits that ever

"Make sunshine in a shady place,"

changing the heart's wilderness of worldly care into a cultured garden of all pleasant things. Some people there are who will not consent to be made happy; they

find their greatest satisfaction in incessant grumbling and repining against destiny. Discontent, like a murky cloud, impervious to the light of heaven, broods even upon their horizon.

The cheerful person enjoys everything as he goes along and does not fret over every little mistake he encounters on life's pilgrimage. His flow of spirits never slackens, hence he appears ten years younger than he actually is. If we resolve to see the world from its sunny side, we have almost half won the battle of life at the outside.

We must not only participate in the successes of our friends, but in their reverses and trials. It is the nature of compassion to forget self in the commiseration of the sufferings of another, and yet such human hearts yet linger among us.

Wealth and station are the accidents of life, or rather they are apportioned by Providence; but love may exist with humble poverty as readily as with luxury and pomp.

HOW TO BE TALLER.—Certain sceptical people consider it a foregone conclusion that nature cannot be improved upon, and we must accept our bodies as they are, or as the careless habits of civilisation may form them. But those who think differently—and amongst them rank eminent contemporary physiologists—will welcome a remarkable and concise booklet written by Mr. F. Meredith Clease—a well-known physical expert—entitled, "Why are you not taller." Mr. Clease formulates at considerable length a rational and scientific system of increasing the height of the human body from 1 in. to 2½ in. The arguments are not the pleas of a theorist, but are the fruits of 17 years of continuous study of the physical side of life. Mr. Clease's novel methods, which are carried out by means of a special apparatus (his exclusive invention, patented in the chief countries of the world), not only increase the height, but give a contour, grace, and carriage to the body not attainable by other methods. Those of our readers who are interested in the subject should apply to Mr. Clease, at his offices, 30, New Bond Street, London, and he will send (we understand) all information free of charge.

WATER A FOOD.—Hutchinson, who has published the latest and best work on foods, includes water among food-substances. Water enters the body, not only as a solvent, but as destined to become a constituent element of the tissues themselves. Water adds to the energy of the body by increasing the volume of blood, and thus increasing the power of the heart, and in other ways contributing to the activity of the tissues.

Appendicitis—The Uncrowned King.

HAVE you got the new disorder?
If you haven't, 'tis in order
To succumb to it at once without delay.
It is called appendicitis—
Very different from gastritis,
Or the common trash diseases of the day.

It creates a happy frolic
Something like a winter colic,
That has often jarred our inner organs some.
Only wrestles with the wealthy,
And otherwise most healthy—
Having got it, then you're nigh to kingdom come.

Midway down in your intestine,
Its interstices infestin',
It a little alley, blind and dark as night,
Leading off to simply nowhere,
Catching all stray things that go there,
As a pocket, it is clearly ought of sight.

It is prone to stop and grapple
With the seed of grape or apple,
Or a soldier button swallowed with your pie.
Having levied on these chattels,
Then begin internal battles
That are apt to end in mansions in the sky.

Once located, never doubt it,
You would never be without it;
It's a fad among society that's gay;
Old heart failure and paresis
Have decamped and gone to pieces,
And dyspepsia has fallen by the way.

Then stand back there, diabetes,
For here comes appendicitis,
With a brood of minor troubles on the wing;
So, vermiform, here's hoping
You'll withstand all drastic doping,
And earn the appellation, "Uncrowned King!"

"OMEGA."

AN EXPENSIVE LUXURY.—Mrs. Reade: The paper tells of a girl who lived some time without a pulse. Reade: Well, what does anybody want a pulse for? It's only another thing besides the cheque-book for the doctor to feel.

"WE are also confronted by the importance of the medical art. With the exception of two, or possibly three, ailments, it is questionable if we can more successfully or more rationally combat existent disease by means of remedies than could our ancestors hundreds of years ago. The only real progress that has been made in medical treatment has consisted in the gradual discarding of remedies. The doctor's work in the future will much more consist in teaching the public *to be its own doctor* than in pandering to its laziness by trying to patch up the results of previous carelessness."—DR. WRIGHT (the eminent Pathologist to St. Mary's Hospital, London).

THERE is only ONE disease—*congestion*.
There is only ONE cure—*circulation*.
And EXERCISE affords the—*stimulation*.

VITALITY. Breathing the Important Factor.

By JOHN G. EADS.

THE physician or scientist can tell us all about the delicate machinery of our anatomy. The dissecting rooms have furnished for centuries practical knowledge for any army of surgeons. Tons upon tons of books and journals record the results of tests and experiments, thousands of pounds are spent annually by the public and by individuals to extract results from this vast expenditure of time and grey matter; and what result? An increase in the army of physicians and in the number of drug-stores and proprietary medicines; and a corresponding increase in the ravages of disease.

Not one medical luminary has arisen to explain the cause. I assert that the very simple principles of life itself—and the very foundation of health—are totally overlooked by the average physician in his practice. The elements of nature, which feed and nourish the fire of life, are neglected, and lost sight of, for the more popular and lucrative practice of "materia medica." It is certainly the work of the present generation to seek for and invoke the aid of nature's great laws in restoring man to that enjoyment of health and physical perfection which our Creator intended for him.

That "Vitality" is the greatest life-giving and life nourishing factor in Nature, and that it is as free as the air we breathe no honest and persistent experimenter will deny. Each sun-seasoned inhalation which enters our lungs is laden with this precious elixir of life, and if the muscles are tensed, while we retain a full breath of such air, the blood will tingle even to the ends of our fingers and toes with this great controller of our vitality and life.

The first and last act of individual life is to breathe. Our food may be of the very best, and in correct proportions; and it may, if possible, be properly digested and distributed; but if it is not seasoned with the life-giving spark contained in every breath we breathe, it would be of no more use than so much sawdust. Nourishment may be withheld from man for days, and even weeks, and he may go without water for hours, but totally stop his breath and how quickly he is left lifeless. A man may lose his eyesight, his senses of smell, touch, taste, and hearing, and, indeed, his arms and limbs may be amputated, and he will yet live; but if the breath is stopped, the machinery of life stops at once and forever. If we watch the signs in a starving man we find first his body giving way; he becomes prostrated; he lays himself down; the blood no more contains the materials needed to rebuild the tissue, and the strength fails. If we administer nourishment at this stage he will recover; but if we do not, and pursue the investigation further, we find next his mind fails. There would still be chances for his recovery, but for the sake of science the investigation is carried further; and, last of all, we find the breath leaves; the spark of life extinct; all hope is gone; all the powers on earth could not start the machinery of life again.

Then if our breath is such an important factor in life it is wise that we secure as much of it as our respiratory organs can introduce.

The breath serves two purposes: first, it is the life-giving principle; and I believe furnishes one of the elements which generates the electricity of the body—it surely is one great source of the oxygen for the blood—and second, each exhalation carries into eternal space millions of

atoms of worn-out tissues which would poison the blood if retained.

The motto for health would then seem to be, increase the range of breathing. Exercise is the natural and only means of accomplishing this end.

The average person uses but a small proportion of his lung capacity in the ordinary duties of life. Therefore but few of the air cells are filled at each respiration. Thus a great number of cells remain unused, perhaps for the full period of life. The bony frame which incases the lungs and vitals becomes dry and unpliable and the muscles which control the respirations become weak, and he cannot take a good deep breath if he wishes to; a little unusual exercise causes pain in the chest, and he concludes that exercise is bad for him. If we exercise properly, a demand for more oxygen is made by the blood, and the breathing is thus increased—"one good turn deserves another"—the use of the muscles of the chest attracts nutrition to that part, the old and worn-out tissues are forced out to make room for the new ones, and in this way the blood is oxygenised, the lungs are healed and strengthened and the chest-frame is developed.

A good exercise to make the chest-frame flexible and to develop the lungs and increase their capacity, is the following:—

Empty the lungs of all the air possible, while pressing on the sides of the chest-frame, with the open hands; then fill the lungs slowly but surely, being careful not to overdo at first. Repeat several times, but discontinue if you become dizzy; the dizziness will soon disappear. As soon as possible a thorough course of physical exercise should be adopted.

SKETCHES OF LADIES' INDOOR CRICKET AT ST. BRIDE'S INSTITUTE, LONDON, E.C.

The Ladies have taken up indoor cricket with hearty zest. These spirited sketches are reproduced by kind permission of the *Morning Leader*. The example should be followed by all Gymnasia having female members.

Sandow Magazine Readers' Club.

President - - EUGEN SANDOW.

Motto:—One may Help Many.

For the exchange of ideas, personal experiences and photos for the encouragement of Club Members. Every Reader is a Club Member.

Readers are expected to act up to the Club Motto, and for services rendered the President will award to the sender of every published idea, experience or photo. the Club Fellowship Medal as a token that the rightful owner has earned the Fellowship of the Club.

Once a month the names of newly-admitted Fellows will be published under the head of "The Fellowship Roll."

Those already qualified as Fellows and who send further contributions will have attached to their names figures denoting the number of occasions on which they have assisted the Club, thus:—Alfred James (°5). Birmingham (meaning that this is Mr. James' fifth occasion of assisting the Club).

Appetite was out of Existence.

Rangpur, Bengal.

DEAR MR. SANDOW,—We have much pleasure to state to you a few lines regarding the improvement which we have gained after a few months' exercise.

We cannot express the gratitude and thankfulness in affording you the boon which you have given us and the people at large.

During two years ago we were of thin stature, energyless, and appetite was out of existence.

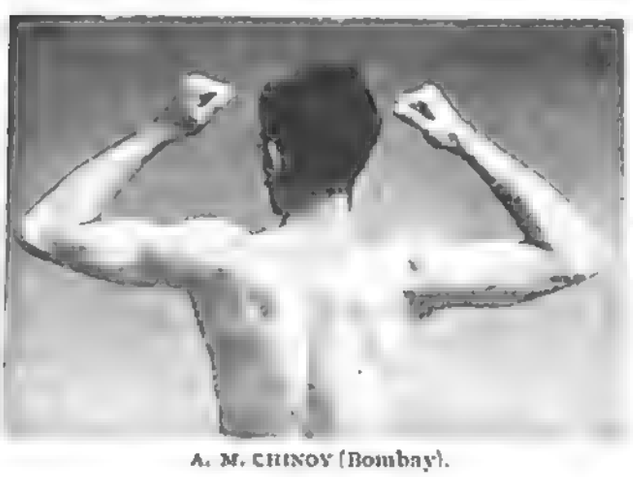
But after going through a few months' exercise of your system, I can say without the least exaggeration that we are now enjoying all the blessing of a sound mind and a sound body.

Health awfully improved, appetite increased, and the powers of kidney and intestine are at normal.

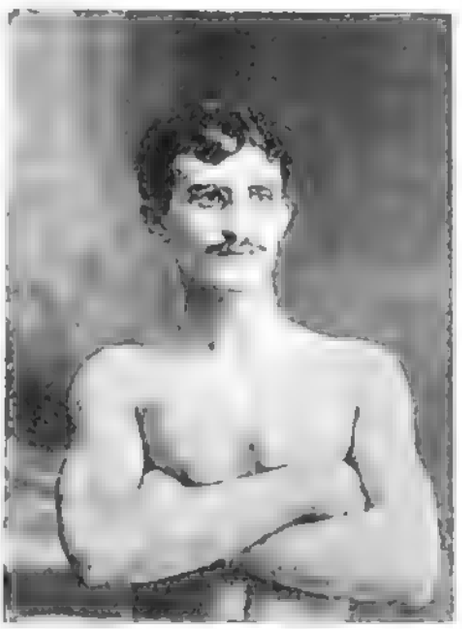
We have gone through your recent system (combined deve'oper) for nearly three months, and all the excretory muscles are increased in proportion.

Yours truly,

N. LAHIRI and B. C. BHATTA.



A. M. CHINOY (Bombay).



A. M. CHINOY.

With Great Zeal every Time.

Dhunji Street, Grant Road, Bombay, India.

SIR,—I read in our daily newspaper, the *Jame-Jamshed*, a month before his arrival, that Mr. Sandow was coming to India. I was anxiously awaiting his arrival, and the much-desired day at last came. Throngs of people were waiting at the station to see the "friend of humanity," among whom the generality were Parses. Thousands greeted Mr. Sandow with a hearty hurrah on his getting down from train.

One day I arranged with a friend of mine to witness an exhibition of Mr. Sandow's feats. Never will I forget the impression the feats made upon my mind. Exclamations of praise were constantly uttered by the audience at the mighty and well-developed forms of Mr. Sandow and his

pupils, and the amazing weight-lifting power they displayed.

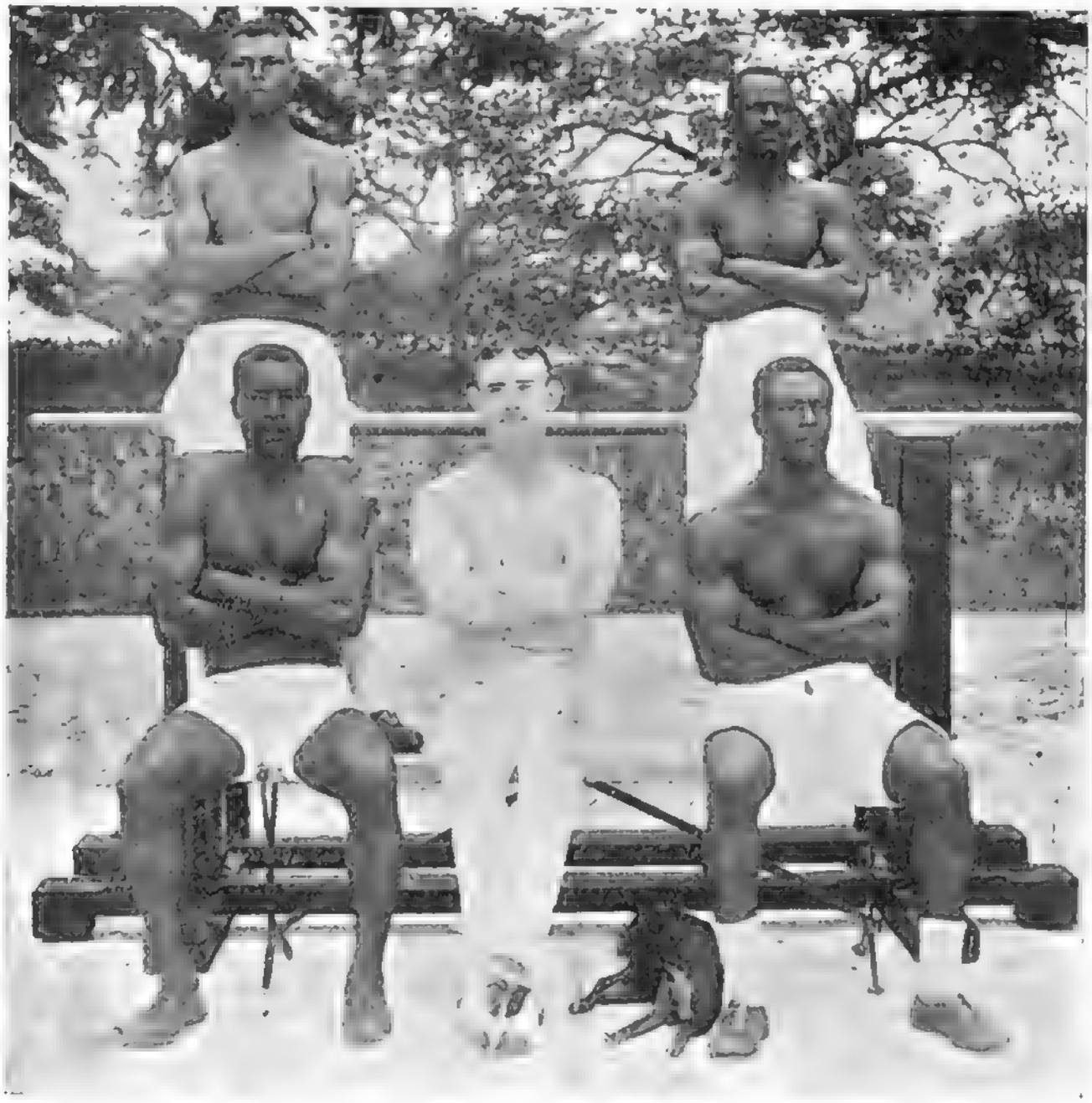
At first I was very weak in health and was suffering from constant pains in the head and in the backbone. But one month's course of exercise according to the Sandow system removed the pains completely, and step by step I began to gain strength.

Herewith I send you my photos. My body as you now find it is the result of eight months' training according to the Sandow system.

My age is 19 years; height 5 feet and 9½ ins.; weight 10½ stone; chest, first 30 ins. (expanded), now 38 ins.; upper arm 10 ins., now 13½ ins.; thigh 18 ins., now 21½ ins.

From this you will see how much I have benefited by the system; and I am gradually increasing in strength. I am reading your SANDOW MAGAZINE with great zeal every time. I hope one day to enter as a competitor in your prize competition. I have made some of my friends buy your grip dumb-bells, and they too are also recognising the merits of the Sandow system.

ARDESHIR MERWANJI CHINOY.



FOUR NATIVE SOLDIERS OF THE 1ST WEST INDIA REGIMENT (BARBADOS).

Gymnasium Instructor, Sergt. Danewood (1st Worcester Regt.)
Lance-Corporal Niles. *Lance-Corporal Hinkson.*
Sergeant Griffiths. *Lance-Corporal Samuels.*

(Lance-Corporal Samuels shows remarkably-developed Shoulder Muscles).

Fine Flour and Malnutrition.

By DR. GUSTAVE P. WICKSELL.

We find three generations ago there were few dentists and no need for more. The people lived on simple foods; patent-process flour and baking-powder were unknown; hot bread was seldom eaten. Without knowing it, our ancestors were following the laws of nature in chemistry of food, which we of a later generation have so frequently violated.

The Creator in building a kernel of wheat formed one of the most perfect miracles of vital chemistry in all His wonderful universe. So nicely balanced are the elements in this little grain that no chemist can suggest a point where it might be improved.

So perfect is the vital nutritive value of wheat that from practice it has been found that whole-wheat bread and apples supply every waste of the human tissue. During the past two years I have been using gluten. With this I have seen the most wonderful results. Gluten is absolutely clean, contains less than 3 per cent. of starch and sugar, and will put colour into the ears and cheeks of that anemic girl.

What, think you, must go on in the delicate jellies of the nerves, and in the marrow of the bones, and in the bones themselves when the hardest substance in the human economy—the teeth—is torn down and melted like snow in the sun?

Starvation sits at loaded tables. In the midst of abundance we have the young breaking down at their studies, business men fall out of the race, mothers grow pale and weak from no visible cause, while the dentist and the doctor work night and day to repair the breaking, crumbling, suffering army of starving people.

Not overwork but malnutrition is the cause—that and the coffee and tea habits with which the majority brace up their hungry and rebelling nerves.

The Wrong Way to Walk.

Very stout or slouchy people usually allow the abdomen to "lead." Brain workers, worriers, all nervous and physically uncultivated people, let their heads lead; the head is further advanced than any other part of the person. Dyspeptics whose thoughts are centred on their stomachs, often unconsciously lead with the waist line just over the offending organ. Occasionally a weak-willed person permits the knees to lead. When a thin, bad walker moves rapidly, there often seems to be a race between nose and knees.

When a young woman's skirt and a young man's trousers show a bulging shape over the knees, their owners are leading sedentary lives or have never learned to walk correctly. This part of the lower limbs should be kept straight, and the ball of the foot, not the heel, should touch the ground first. When the head is bent for long hours over sewing machine or ledger or onion bed, it is not an easy matter to pull it back to its proper position and make it stay there, and it seems so much more easy and comfortable to let the chest sink than to hold it up to its right place; but the demands of health and beauty are identical in the matter of a head held easily, not egotistically, back, and a chest in the highest and most advanced position.

It is a striking fact that this attitude of head and chest is expressive, not only of health and grace, but of the finer mental qualities. The embarrassed boy drops his head; if he would hold his head up, his nervousness would begin to disappear. The shy girl thinks that everyone in the room is looking at her, and her chest sinks; but if she would hold it up—assume the attitude of courage, though she have it not—she wouldn't care whether they looked or not. The self-conscious person who knows he is stiff and awkward, and who knows that his stiffness and awkwardness are the direct results of his self-consciousness, should imagine that a strong string is attached to the upper part of his chest and held by an invisible hand above him.

HOW BOXERS TRAIN.

By P. G. WODEHOUSE.

Good condition is nowadays so absolutely essential to success in the ring, that it comes as a surprise to learn that in the days of Broughton and Slack, and even later in the days of Gentleman Jackson and the Belchers, when men fought with the "raw 'uns" until they could stand no longer, training, as we understand the word, was entirely unknown. That wonderful endurance was required to enable a man to fight a hundred rounds under the old conditions goes, of course, without saying. But in those times a round was not a definite space of time. It might last a quarter of a minute or a quarter of an hour. Directly one of the fighters fell, and he might fall without a blow, the round was at an end. As, moreover, a man's seconds were allowed to carry him bodily into the ring, it will be seen that a clever boxer could so economise his strength as to enable him to dispense with any but a very rudimentary course of training.

To-day, of course, all this has been altered. A man must walk unaided to the scratch. He loses the fight if he fall of set purpose and not through being genuinely knocked down. Finally, each round lasts three minutes, a severe tax on the strength of the most powerful.

The first English boxer of note to undergo a scientific course of training was the famous Tom Cribb, of Gloucestershire, who succeeded Pearce, better known as the Game Chicken, as champion of All England. Cribb had fought his way to fame as a fourteen stoner, which was the weight at which he beat Jem Belcher. It was not until his second fight with Molyneaux, the Black, that he was taken in hand by Captain Barclay and properly trained.

THE VALUE OF TRAINING.

His appearance on the day of the battle was an advertisement for systematic training which the boxing world could not afford to ignore.

Cribb commenced his preparation eleven weeks before the date for which the fight was fixed at his trainer's house in the north of Scotland. Starting with nothing more than the ordinary air and exercise which the average man enjoys in the country, he gradually progressed until after a time he was doing his thirty miles a day in company with the captain, who, as everybody knows, once walked 1,000 miles in an equal number of hours, and so was likely to take his man along at a far higher rate of speed than was probably pleasant to him. Nor was this all. Besides the ordinary sparring and the like Cribb had to run two miles each day at a good pace. The result was that when he came to London to fight Molyneaux, who for his part had done no training whatever, he left three stone behind in the Highlands, and beat his man easily in a little over a quarter of an hour. Since then no boxer has ever fought untrained.

RUNNING AND SPARRING.

The training of professionals is always of the most severe character. Some two months before the fight a boxer goes to his training quarters at some healthy country or seaside spot. A few weeks are taken up with gentle exercise such as walking and light sparring, while he is becoming acclimatised. Then the strict training begins. The routine is generally much the same in the case of all pugilists, except when, as often happens, a man has to train down to some very unusual weight, and so needs to treat himself more severely than the man who merely wishes to get himself fit. Running and sparring play an important part at this stage of the training. The boxer is well muffled up before his daily run, often in a couple of sweaters and a heavy overcoat. A sweater only is worn in addition to the fighting kit when sparring. This sparring may be light or heavy according to the fancy of the boxer. In training for their famous

championship fight, Corbett and Fitzsimmons pursued opposite tactics with regard to this, the former preferring to spar lightly, while the latter let his sparring-partner hit as hard as he would have done in an actual fight.

Another feature of modern training is the ball-punching. Four or five rounds a day with the ball are usually considered sufficient, each round being of the regulation length, and fought out with all the energy of which the boxer is capable.

Cycling is sometimes thought a good thing, and probably there is no better way of strengthening the muscles of the legs. Fitzsimmons, when training, is accustomed to ride fifteen or more miles a day in addition to his other exercises.

THE MEDICINE BALL.

The latest development of modern training is called the medicine ball. This is a heavy round ball, in size rather larger than an Association ball. The ball is tossed backwards and forwards from the trainer to his man, and is of great service in exercising many important muscles, especially those about the shoulder blades which produce hitting-power. The medicine ball is the development of an old form of training, to which Sayers, the opponent of Heenan, is said to have owed much of the wonderful force of his blows. Sayers was a bricklayer by trade, and it was part of his work to pick up bricks and throw them into a hod some distance away. The muscles employed in this action are the same as those used in a straight hit from the shoulder. The worst point, or rather the only bad point, about the medicine ball is the fact that it often leads to the straining of a muscle, a very serious matter just before an important fight.

Skipping is now almost universally employed in the training of boxers, for it is unrivalled even by cycling in its effect on the leg muscles, to which, even more than to his shoulder muscles, a fighter is indebted for victory.

The rules as regards diet are strict. Toast is eaten instead of bread, and drinks are cut down to one or two bottles of beer, taken during meals. Even when a boxer has, or thinks he has, an easy job in front of him, you will never find him breaking through the rules of diet.

The amateur boxer is, of course, a good deal restricted in his training by the calls of his profession. Most amateur champions are kept occupied by their work for the greater part of the day, and cannot devote as much time as they could wish to their training. Sparring every evening, dumb-bells, and walking on occasions when the average man would ride, together with a strict attention to diet, is all that most amateur boxers can do. There are several minor ways which help a man to get into condition, as for instance, standing most of the day instead of sitting, rubbing the face and arms with eucalyptus oil, which has an hardening effect, and so on. At the Public Schools and the 'Varsities stricter preparation is possible. If a 'Varsity boxer cares to do so, there is nothing to prevent him training himself very nearly as strictly as a professional. He can regulate his own diet, and take as much exercise as he pleases.

PUBLIC SCHOOLS' BOXING.

At the Public Schools the tastes of the individual are not studied in the matter of food, and the boxer will probably ask in vain for toast instead of bread and the like. But in the matter of exercise there is nothing for him to complain of. In view of their constant success at Aldershot, St. Paul's School may be taken to represent Public School boxing at its best, so that the main details of the training system in force there will perhaps be found of interest. About a month before the Aldershot competition (which is all the Public School boxer lives for) a competition is held to decide who shall represent the school at the various weights. Training begins immediately after this is over. It consists for the most part of sparring practice among the various boxers, who are coached by a professional. A good deal of running is also done in the school grounds. The representatives box once a day during the first two weeks of training, and twice during the last two. All sweets and pastry are strictly forbidden, and beef and mutton are the only varieties of meat eaten.

The Use of Stimulants.

By S. W. Dodds, M.D.

Applying the Whip to Exhausted Nature.

Before entering upon the subject of stimulants, let us consider for a moment how the body is fed and built up. Throughout the vegetable kingdom inorganic substances alone are capable of nourishing the growing plant. In the animal kingdom just the reverse is true; human beings, as well as the lower animals, derive their sustenance wholly from organised products. There is no exception to this rule; though, if proof is called for, suppose we take up that particular theme and discuss it. No one doubts that animals, fed exclusively on substances which are inorganic, combine them as we may, would invariably die.

A recent writer in one of our health journals makes the following remark: "It should be known that no inorganic matter can be changed into organic matter in the animal kingdom; that change must always take place in the vegetable kingdom." The statement here made is strictly correct—some chemists (and many doctors) to the contrary, notwithstanding. This brings us to the question, "What is a food?" As already stated, plants are nourished by inorganic substances, and by no others; but all animals, including the human, derive their nourishment from substances which have become organised. The foods proper belong to the latter class. They replace those waste matters which are daily expelled from the living system through the departing organs; they nourish, they build up.

It does not follow, however, that ALL organised substances are foods; these embrace only such as can be digested and assimilated—made part and parcel of those vital structures which constitute the body. How human beings found out which of the products of the earth were fitted for food and which were not, is an interesting question. Experience teaches many things, but where foods and poisons grow out of the same soil the lesson might be dearly learned. Not only so, it requires much judgment to be able to select the best foods. Nature is exceedingly lavish in what she has to offer; many substances are capable of sustaining life, but only a limited number of these are foods of a high order. Any substance that will make blood and tissue may be called a food product, but those which make the purest blood and the finest quality of tissues constitute the best foods.

There are two processes in the vital economy which are carried on simultaneously. In the one the ashes, or debris, of the body is removed. In the other the digested and elaborated food is conveyed through the blood to the various tissues, and takes the place of those waste products which have been thrown off; new materials are deposited, cell growth continues, and the process of building up goes on. It is by such means that the human system is developed. Water, which constitutes about three-fourths of the body and a large per cent. of the blood, assists in carrying the nutrient materials to the several points of distribution, and under the supervision of vitality they become organised. The air we breathe is the agent chiefly concerned in the work of disintegration; the oxygen which it contains is conveyed in the blood to the vital structures, where it gathers up the carbon, or waste, of the system, this being afterward expelled through the lungs and other depurators.

Every day of our lives, we are living and dying at the same moment; dead matter is thrown off from the tissues, and living elements take its place. We part with the old, the worn-out, and appropriate the new. Just here is a fine

thought: A food proper ought always to contain the life principle, else it cannot build up and sustain the vital organism. For example, wheat or other grain that will not grow when planted, is not fit to eat; there is no life in it. Vegetables, too, as potatoes, beans, peas, etc., which have lost their essential element, will not nourish the body. Microbes live and propagate in matter that is dying or half decayed; scavengers thrive upon it. But human beings require something better for food; dead, effete matter can not sustain them.

Now, what has all this to do with stimulants? Let us see. Aside from light and heat, there are three things which are essential to animal life in its highest forms: Fresh air to breathe, pure water to drink, and a good quality of food to build up the tissues. The moment we take into the system any inorganic substance except air and water, an extra burden is imposed upon the depurating organs; it can not be utilised; the vital instincts reject it, and organic war is the result.

Stimulants, of whatever kind, antagonise the life principle. They produce commotion in the system as soon as they enter it; and it is this disturbance of organic function, this agitation, which is mistaken for an increase of vital force. Owing to their presence the heart's action is quickened; the blood circulates more rapidly; the vital processes are interfered with, and become abnormal. The various depurating organs are doing their best to gather up the offending substance, and to expel it; nor will they cease their efforts so long as a spark of vitality remains. Nature does not tolerate intruders; she has kindly provided that they shall be gotten rid of as rapidly as possible. When alcohol enters the circulation, a part of it is very soon expelled through that safest of all depurators, the skin. Another portion is thrown out through the lungs; we perceive it in the breath exhaled. Still another portion passes through the kidneys; and the liver and intestines receive their quota.

Anything that stimulates is a spur to vital force. It is the whip which makes even a jaded horse start off at full pace. Or, like the embers on the hearthstone, every time you stir them, showing the live coals, it hastens the process of putting the fire out. Whenever we give a stimulant, vitality is wasted. This is shown in the fact that, after stimulating, there is always a re-action—a feeling of weakness or exhaustion.

A stimulant may be defined as a substance which can not be utilised in the vital organism, and which is rapidly eliminated, a large quantity of it being thrown out through the skin. Whiskey and cayenne pepper are good examples; peppers of all kinds belong to the same class. Black pepper especially is a great disturber of the heart's action, and is, therefore, highly injurious. The very fact, however, that these poisons are promptly expelled, and to a great extent through surface depuration, makes them less dangerous. There are other poisons which are far more deadly, and which will do their fatal work in a much shorter time. The whiskey toper, as a rule, goes on killing himself year after year, and still the grave does not receive him. The question is sometimes asked, why is it that many habitual drunkards live to a good old age? It is because they had a fine stock of vitality to begin with. It takes several generations to wear out a strong constitution. Had the man been temperate in all his habits, he might have lived much longer and enjoyed better health in the meantime. Often we fail to give Nature credit for what she would willingly do for us, if only her laws were obeyed.

Among the more deadly poisons are the opiates—the nerve-killers, as they are sometimes called. They deaden sensibility, and must be eliminated (if at all) in some other way than through cutaneous depuration; they are antiphlogistic in character. All medicines of this class are just the opposite of stimulants; instead of being expelled in large quantities through the skin, the internal organs must dispose of them as best they can.

It is a problem for discussion, whether stimulants are not responsible for more mischief than opiates. Their victims are more numerous; nearly every doctor prescribes stimulants, especially during

convalescence. And yet it has been shown repeatedly, that those physicians who do not prescribe them have the best success. Many are the victims who have fallen a prey to the false theory of stimulation. Prince Albert was one of these; his fine constitution brought him through the illness all right; but the stimulants that were given when he began to convalesce, exhausted the life forces and he died. At the very time when every particle of vitality ought to have been husbanded stimulants were resorted to, and vital force was used up.

Reasoning from cause to effect, common-sense would tell us that after the remedial effort is over, in fevers and other diseases, we should let the patient rest; in other words, not apply the spur when the horse is already tired out. The physician who, trusting to Nature's almost limited resources, dispenses with alcohol and other stimulants, has the fewest fatalities in his practice, and his patients make a prompt recovery. A little careful investigation would prove the truth of this statement; but so firmly are the old methods adhered to by the masses, that scarcely a doubt is entertained in regard to them.

When Great Men have Died.

Of the eighty-nine celebrities included in the following fairly representative list nearly one-half attained the age of seventy years or more, and nearly two-thirds attained the age of sixty.

MILITARY.—Moltke was the most long-lived of great generals, reaching the age of 91. Then follow Xenophon, 86; Wellington, 83; Bernadotte, 80; Blucher, 76; Genghis Khan, 72; Tilly, 72; Marlborough, 72; Marius, 71; Timum (Tamerlane), 68; Themistocles, 65; Hannibal, 63; Napoleon, 51; Alexander the Great, 32.

PHILOSOPHY.—Humboldt leads the men of learning with 89 years. Then comes Newton, 84; Pato, 82; Kant, 79; Galileo, 78; Copernius, 70, Linnæus, 70; Leibnitz, 70; Socrates, 68; Aristotle, 62; Hegel, 61; Descartes, 53; Spinoza, 44.

DIPLOMACY.—The list of statesmen runs: Talleyrand, 84; Bismarck, 83; Augustus, 76; Disraeli, 75; Frederick the Great, 74; Charlemagne, 71; Washington, 67; Cicero, 63; Cromwell, 59; Richelieu, 57; Cæsar, 55; Alfred the Great, 52; Pitt, 47; Mirabeau, 42.

LITERATURE.—Among men of letters are Sophocles, 90; Voltaire, 84; Goethe, 83; Victor Hugo, 83; Corneil'e, 78; Herodotus, 76; Euripides, 74; Thucydides, 70; Petrarch, 70; Rabelais, 70; .Eschylus, 69; Cervantes, 68; Milton, 65; Scott, 61; Racine, 59; Horace, 57; Dickens, 57; Dante, 56; Shakespeare 52; Virgil, 51; Moliere, 51; Schillier, 45; and Byron, 36.

ART.—Titian leads the artists and, indeed all the rest, with the venerable age of 99. Then comes Michael Angelo, 89; Rubens, 63; Rembrandt, 63; Velasquez, 61; Holbein, 57; Van Dyck, 42; Correggio, 40; Raphael, 37.

RELIGION.—Four founders of religious sects are included: Confucius, 71; Luther, 66; Mohammed, 62; and Calvin, 54.

MUSIC.—The musicians are: Haydn, 77; Handel, 75; Spohr, 75; Palæstrina, 70; Bach, 55; Beethoven, 56; Schumann, 41; Weber, 39; Chopin, 39; Mendelssohn, 38; Mozart, 35; and Schubert, 31.

The average age of the eighty-nine, t death, was 64½.

Despite the general longevity there is something striking and pathetic in the low figures set opposite some of the greatest names in the list, notably Alexander, Raphael, Weber, Mozart, and Schubert. Musicians seem to be especially short-lived. The average life-time of those cited comprises only fifty-three years.

The men of learning on the other hand, and also the generals, enjoyed, on the average, seventy years of life. The average life of the statesmen and also of the literary men was sixty-five years.

The Dangerous Habit of Self-Drugging

BY DR. T. L. STEDMAN.

Perhaps the greatest foe to the health of the present generation is the pernicious habit of self-drugging. Nerve tonics, blood purifiers, sleep producers, and especially laxatives, are consumed by the gallon and the hundredweight. The primary effect of any of these poisonous mixtures is seemingly good; the nervous fidgets, the "tired feeling," the insomnia by the first few doses. Naturally, when the symptoms return, as they are bound to do, the sufferer turns again to the bottle or the pill-box. Again, he gets relief, and again he is driven back to his drug, taking larger and larger doses as the habit is forming, until at last the fetters are forged and a new "drug fiend" is created. It is cheaper than calling in a doctor, and is less trouble than systematic exercise; but how many could be saved from this bondage, and how many slaves could be freed by rational physical culture, only the physician who knows the prevalence of this evil can guess.

The nervous, the sleepless, and the neurasthenic are of all persons the last who should seek relief from drugs or from alcohol. Their very disease predisposes them to drug addiction, and once having experienced the lethe which drugs may bring, only the most heroic exhibition of will power—which, alas! they have not—can save them from thraldom. And yet these shattered nerves are calling only for rich, red blood, for pure air, good food, and the healthful stimulus, without reaction, of the bath. The rest-cure for some, active exercise for others, will bring the reality of health, which drugging can only for a brief moment stimulate.

Dyspepsia and constipation, when due to stomach and intestines, or to deficient secretion of the digestive juices, or to a sluggish liver, are often miraculously relieved by properly directed physical exercises. The overfat, also are good subjects for "reducing cures" by dieting and exercise, and so are the gouty and those suffering in other ways from what is called, rightly or wrongly, the "uric-acid diathesis."

THE BATH.
(After a famous picture.)

How does our Body Protect Itself against Sickness?

By CARL STRUEH, M.D.

MAN, like every other human being and every living plant, is, during the entire time of his existence, subject to injurious influences; influences which are antagonistic to the conditions essential to living, and which would be powerful enough in themselves to put an end to his life were the living body not endowed with a mechanism capable of preventing the effects of these influences or of neutralising them. Life is an unceasing struggle of the organism of existence, an everlasting battle between influences detrimental to health and the mechanism of protection and resistance of the body. Are the latter unequal to the task of warding off the noxious influences, our organism will succumb, *i.e.*, it will sicken and finally perish.

The marvellous manner in which our body protects itself against all the different noxiousnesses may be observed in an endless line of processes going on in our organism. When we run a dirty splinter of wood into the finger, the body at once calls forth an inflammation and suppuration in order—if at all possible—to coax the splinter, as it were, to expel it altogether with the noxious substances attached to it and, in this way, to prevent blood-poisoning. When we choke, *i.e.*, when some foreign body finds its way into the respiratory organs, a violent coughing fit at once sets in, for the purpose of expelling the former and of preventing its remaining and thus causing a fatal illness.

In certain cases of paralysis it not infrequently happens that the patient, owing to the insensibility of the respective nerves, is not aware of the swallowing, in consequence thereof, the swallowed substance remains in the respiratory passage and causes a fatal pneumonia.

Sneezing after taking a pinch of snuff is part of the mechanism of protection existing with our body, and only after the nerves of the nose, by repeated and persistent use of snuff, have become insensible, sneezing ceases.

When we partake of unsavoury things, our body generally rids itself of them by vomiting or by diarrhœa.

The hardening of the skin against influences of cold; all those manifold processes that are observed during disease, such as fever, pain, perspiration, coughing, cutaneous eruptions, etc., all these represent the mechanism of protection and prevention of our body.

Hence we commit the most flagrant error in repressing instead of assisting these curative efforts of Nature.

Again, the enlargement of the heart-muscle in impaired circulation; the enlargement of one of the kidneys in affections of the other; the augmentation of the sense of touch in blindness; the compensatory enhancement of the activity of one organ in case of suspended function of another serving the same purposes; the feeling of fatigue impelling us to rest after an exertion; the want of appetite which induces us not to burden our stomach with needless food; the feeling of hunger and thirst telling how much and what kind of food and how much fluid our body is in need of for the time being; the numerous inflammatory conditions; the various hæmorrhages, as, for instance, bleeding piles; all these symptoms are necessary results and do not develop without a cause.

They represent the means of protection, by which our body is rendered capable of maintaining its integrity as long as it is possible under the circumstances. Only when all the preventive

and curative means which Nature employs are insufficient, especially because of the lasting effect of the original cause, does our body succumb.

Bacilli are also to be classed among our means of protection; they must not be considered causes, but as effects of physical disturbances. One is not sick because of the presence of bacilli, but the bacilli are present because of the existing sickness. Bacilli were not created to make us ill, but to restore health. From unphilosophic minds only could emanate the absurd idea that Nature created these low beings with the express and evil intent to impair our health. Nature destroys us only after we have become unfit for further existence and proper propagation, by our unnatural mode of living. The metabolism of our body must first have been disturbed before bacilli make their appearance to remove the dead substances created by the disturbance of the metabolic processes and thus restore our health. Only if the original disturbance continues, the formation of dead substances and the presence of bacilli will also continue, until we succumb. Bacilli by themselves are not the causes of disease. They are to be found everywhere; they are swarming about us wherever we are, but they never settle in our body and multiply, if there be no dead material for them to subsist on. One man's meat is another man's poison. That we find different bacilli in different diseases is to be explained by the fact that the cells decaying during disease are composed of different elements and that these different elements furnish the means of subsistence to the various species of bacilli. We find an analogon in lice. We distinguish head-lice, body-lice, and clothes-lice. A head louse does not thrive in the clothes; a clothes-louse does not thrive on the head, and a body-louse neither on the head nor in the clothes. Why? Because the conditions of subsistence are different for the various species; the head-louse finds favourable conditions on the head only; the clothes-louse in clothes only, and the body-louse only about certain parts of the body. Exactly the same is the case with the various species of bacteria. The bacillus tuberculosis, for instance, is found only where there is the material necessary for its existence, and not where conditions are favourable to the existence of the bacillus of diphtheria or small-pox.

A so-called infection always requires, besides the bacillus, a so-called, predisposition which means the presence of decayed substances furnishing the conditions of existence to the bacilli. The decomposition and removal of this material proceeds in the nature of an acute. feverish disease, which latter must not, on that account, be considered as a disease *per se*, but as the process of reaction and healing, and hence must not be repressed. The acute illness being permitted to run its course, complete recovery will take place in almost all cases not ending fatal, because the system has been freed from all decayed matter and thoroughly cleaned. An incomplete recovery is most always the result of an interference with the process of reaction and healing by incorrect treatment, especially by improper diet and absorption of chemicals (drugs).

The A.B.C. of Health.

As soon as you are up, shake blankets and sheet;
Better be without shoes, than sit with wet feet;
Children, if healthy, are active, not still;
Damp beds and damp clothes will both make you ill;
Eat slowly, and always chew your food well;
Freshen the air in the house where you dwell;
Garments must never be made to be tight;
Homes will be healthy if airy and light;
If you wish to be well, as you do, I've no doubt,
Just open the windows before you go out;
Keep your rooms always tidy and clean,
Let dust on the furniture never be seen;
Much illness is caused by want of pure air;
Now to open your windows be ever your care;
Old rags and old rubbish should never be kept;
People should see that their floors are well swept;
Quick movements in children are healthy and right,
Remember the young cannot thrive without light.
See that the cistern is clean to the brim;
Take care that your dress is all tidy and trim;
Use your nose to find out if there be a bad drain,
Very sad are the fevers that come in its train.
Walk as much as you can without feeling fatigue,
Xerxes could walk for full many a league.
Your health is your wealth, which your wisdom must keep.
Zeal will help a good cause, and the good you will reap.

Hygiene of the Kidneys.

By DR. M. L. HOLBROOK.

The kidney is a gland whose office it is to remove poisonous products from the blood. There are two of them, situated one on each side of the spine, just above what is usually called the small of the back. They are embedded in fat. Each kidney is supplied with blood by the renal artery, a large branch of the abdominal aorta or great artery going down by the side of the spine. From each kidney issues ducts, the ureters, which convey the urine into the bladder. When cut open the kidney presents, even to the naked eye, two very different structural arrangements; an outer one, which is known as the cortical substance, an inner or tubular structure which is arranged in cones with their bases situated upon the cortical substance, and their points pointed toward a central cavity which is known as the pelvis, or basin, of the kidneys, and may be regarded as an expansion of the upper portion of the ureter. The kidney is surrounded by a strong membrane and lined by a smooth one which is continued into this cavity from the bladder through the ureter. A microscopic study of the kidney shows a beautiful, wonderful arrangement. The tubular portion consists of minute tubes, about the diameter of a fine hair placed by the side of minute blood-vessels. These tubes, as they proceed toward the base of the cones or toward the cortical structure, become forked and twisted, and end in a round expansion, on which the hair-like branches of the artery of the kidney are spread out. It is these globular expansions, each but the one-hundredth of an inch in diameter, which gives this portion of the kidney its granular appearance. The minute blood-vessels which are spread out over the globular expansion are again collected into one vein, and these minute veins are distributed amid the tubular structures, previous to being collected in the larger vessels for the conveyance of the blood out of the kidney. The object of all this curious arrangement is this: the urine is taken out of the blood, which is conveyed to the kidney by its own proper artery, the watery portion of the fluid being strained off as it were from the minute tufted vessels which are spread over the globular expansion, and the other constituents being separated from the blood after it has been re-collected from its tufts as it passes among the tubular structure. The mingled watery and other constituents of the urine being thus separated from the blood and united, pass down the straight tubes in the form of urine, which is distributed over the points of the cones into the central cavity or pelvis, whence it is being continually drained off by the ureter into the bladder. The ureter is about the diameter of an average-sized goose-quill, about 18 inches long and passes behind the bladder.

Diseases of the kidneys are, for the greater part, discoverable only through nice chemical tests of microscopic study, and cannot therefore be considered here.

The hygiene of the kidneys consists largely in the avoidance of whatever will irritate the kidneys, and attention to keeping up the general health. The skin should be kept in good condition by regular bathing. No excess of exercise should be practised, the food should be suitable and abundant, the clothing always comfortable; alcohol and tobacco and other stimulants should be avoided, so should cold or a damp, chilly atmosphere. Excessive eating of flesh foods taxes these organs enormously, and under it they often break down. Diseases of the kidneys are far more common and severe in those who drink much wine, lager beer, and eat rich food, than in the temperate and the abstemious, though the abstemiousness need not be excessive. When once Bright's disease has got a hold on the kidneys, then a mild, bland diet, Turkish baths and a warm climate are required.

BEER DRINKING AMONG STUDENTS IN GERMANY.

THE following item has recently appeared in the newspapers:—

"It has been estimated that £150,000,000 is spent yearly for intoxicating beverages in Germany. Germans average five glasses of spirits daily."

The effect of this universal beer drinking in Germany has been carefully studied by prominent university professors and other scientists in that country. The following are a few of their utterances:—

Professor Edward von Hartmann, author of "The Philosophy of Unconsciousness," says: "Although of all nations the German has the greatest capacity for culture, the general culture of its higher classes is undergoing frightful retrogression because the beer consumption of its student youth is affording neither time nor sobriety to acquire more than is demanded by the advanced requirements to prepare for their professional life."

Dr. A. Forel, of the University of Zurich, testifies to practically the same thing in an article in the *American Journal of Insanity*, October, 1900:—

"'But,' you will say, 'alcohol is poisonous in excessive amounts only. A moderate quantity of beer or wine does no harm; it promotes pleasant sociability. We do not care to forgo it just on account of a few drunkards.'

"This question, what dose is harmless and not poisonous, demanded serious tests. As an answer we have the numerous experiments of Kraepelin, Smith, Fürer, Aschaffenburg. They are not refuted, and have found manifold corroboration. Doses of even 7-10-15 gm. (one-fourth to one-half oz.) of alcohol, which correspond to a glass of wine or a pint of German beer (certainly a most moderate dose), are sufficient to paralyse, retard, or disturb the central and centripetal brain functions. The number of mistakes in calculation, setting type, memorizing, is increased. Sensibility is blunted, the reaction is retarded. The subjective consequence of the effect is agreeable; one feels heat, cold, and pain less; one is less afraid, less accurate, less scrupulous. At the same time a very slight illusion spreads over reality, the beginning of the later intoxication by higher doses. Hence, whenever alcohol promotes sociability and loosens the tongue, it is the consequence of a cerebral intoxication. Whenever the dose is too weak to produce this result, it also fails to have the desired effect. Hence, it is evident that the social effect of alcohol is pathological. It may, in Kraepelin's and Delzrück's words, rouse stupid crowds to talk.

"One only needs to study in Germany the 'beer jokes,' beer conversation, and the beer literature. They have stifled in young Germany the idealism, the taste for the classics, and the finer mental pleasures throughout broad parts of the nation and in both sexes. Among the academic youth of Germany the drinking of beer has truly killed the ideals and the ethics, and has produced an incredible vulgarity."

As long ago as 1881, Professor Binz, of the University of Bonn, called attention to this peril in the following strong words: "This flooding the stomach and brain with beer, so prevalent among our young students; the habit of drinking between meals, especially drinking for hours at a stretch, customary among great numbers of the lower and middle classes in Germany—I regard it all as a national evil, whether considered from the hygienic, economic, or intellectual point of view."

More recent utterances come from Dr. J. H. W. Stuckenberg, of Cambridge, Mass., who, from long observation in German universities, made the following statement before the Presbyterian ministers of Chicago last winter: "I once saw a theological student drink twenty-four mugs of beer in three hours on a wager. Outside the class room,

theological students take their beer and think nothing about it. When the classes go to their lodgings after the night sessions the members often are drunk. As a result there are disgraceful quarrels and fights. I saw fifty or more duels fought while I was in Germany which could be traced directly to the habit of beer drinking. When you are confronted with the statement that there is no drunkenness in Germany despite the large amount of beer and light wines consumed, you can refute the argument with figures which are easily obtainable. Beer drinking in Germany is the greatest curse of the country, and it will destroy the nation unless it is checked."

The chief burgomaster of Jena, Germany, having publicly declared that a school director should not be taken seriously because he was avowedly opposed to alcoholism, a number of leading scientists connected with the universities of Zurich, Munich, Basle, Leipsic, and others, published the following statement: "The great danger of the moderate use of alcoholic drinks is that it is a trap for many of our fellow men, into which it entices them, and pushes them to an immoderate use which was not desired, which was even dreaded. The fact is naturally explained, because it is founded upon the special action of the alcoholic poison, and upon the peculiar character of the nervous system of man. . . . The moderate use of alcoholic drinks is the true cause of alcoholism."

"It is an absolutely scientific fact that alcoholic drinks more than any other factor injure our national life, diminish the physical and intellectual forces of our race, impregnate them with the hereditary diseases, and lead to degeneracy.

SPARTAN WOMEN.—Lycurgus, being asked why he brought up Spartan young women in the same athletic exercises as the men, gave the three following reasons for it: first, that a vigorous offspring may be born from strong bodies; second, that they may bear themselves bravely in childbirth; third, that if necessity arises, they may be able to fight for themselves, their children, and their country. *Plutarch.*

THE WONDERFUL DOCTORS.

THEY have found out how consumption may be positively cured;
Ills that used to worry people need no longer be endured.
They've discovered lymphs and serums, so we have been plainly told
That will stop the sad necessity of ever growing old;
They are finding out the microbes, they're advancing day by day,
But people keep on dying in the same old-fashioned way.

Word may come to-morrow morning that some horrible disease
Has been mastered by some doctor here at home or over the seas;
They are stopping all the fevers and arresting all the ills
That the human form is heir to with their serums and their pills;
They are causing men to wonder at their triumphs every day,
But people keep on dying in the same old-fashioned way.

What a wondrous thing is science! They can take a germ from you,
And consult its inclinations and exploit its foibles, too;
They have found out that the stomach is of very little use;
They can master all its functions with the gizzard of a goose;
They are cutting, they are doping, they're advancing day by day,
But people keep on dying in the same old-fashioned way.

Chicago Times-Herald.

Morbid Mental States.

MISANTHROPY, selfishness, and narrowness are productive of disease. Misers are almost always melancholy and dyspeptic. Thousands become ill by centering their minds upon themselves and attaching too great significance to minor symptoms. The writer once met a man who was quite terrified, thinking he was likely to suffer from an attack of apoplexy at any moment, simply because he now and then felt a peculiar tingling or other sensation in one of his legs. Persons suffering from neurasthenia are very likely to aggravate their maladies by introspection. The mind should be helpfully occupied by useful employment. An active interest in philanthropic work of various sorts is a useful means of counteracting the tendency to self-centering which often accompanies chronic invalidism. Thus one may help himself by helping his neighbour.

TOOTH BRUSHES.

By Dr. L. H. ARNOLD.

* * *

Nearly all brushes are made from bristles taken from the wild hogs of Russia or China. The handles are common beef bones. They are made mostly in Japan, France, England, and Germany, and by one firm in the United States. Probably English brushes are the best made and worst shaped. The French are next in quality, but far ahead in form. Germany and Japan are generally imitators. Some of the most expensive English and French, and all American brushes, are made in factories under more or less sanitary conditions; but the cheaper grades, including all German and Japanese brushes, are made in the huts of the peasants, where cattle, dogs, swine, fowls, and humans are herded in common. The bristles and bone are given out by the dealer and taken into the country, where they are assorted by the aged and young children and diseased persons, the stronger members of the family working at more remunerative employment.

These cheap brushes are often made in the most unsanitary and wretched surroundings imaginable, and it is a significant fact that after being made they are seldom sterilized before using.

The English brushes are generally very much too large to be efficient. The French are better shaped, but are apt to be too long of head, making much waste to the brush, and are too long of bristle.

A wide brush is not advisable because it limits the movement possibly longitudinally to the tooth. Long bristles are not best because they bend when the brush is thrust back between cheek and teeth, and stay bent till the brush is withdrawn, thus missing the interproximal spaces so much in need of cleaning. Soft bristles become softer when wet, and utterly fail to enter the spaces at all. If the surface of the bristles is concaved longitudinally to fit the labial curve of the teeth, then when the brush is reversed and used on the lingual surfaces, only the ends of the brush engage the teeth; hence, more teeth are missed than cleaned, and the user is deceived into thinking he has cleansed his teeth because he has brushed them.

Studying the brush over and what is required of it, it would seem that the brush best adapted to use in the human mouth should have a short, narrow head with short, rather stiff bristles, trimmed straight longitudinally and convex latitudinally, that each line of bristles may come successively into use as the brush is rotated.

GRAPES IN KIDNEY DISEASE. Dr. Pecholier, a French physician, has called attention to the fact that grapes are an excellent diuretic. Five pounds of grapes were given in three parts, and the effect produced was found to be much more vigorous than could be obtained from digitalis, iodide of potash, or milk. Only the juice of the grape was swallowed, the skin, seeds, and pulp being rejected. The patient was suffering from ascites with hepatic cirrhosis.

THE NATIONS' USE OF THE POTATO.—According to statistics cited by Waldron in the *Revue pour Tous*, December, the potato is more largely used in Europe than any other food substance, the average amount annually eaten *per capita* being as follows in the different countries named: England, 242 pounds; Austria, 662 pounds; France, 697 pounds; Norway and Sweden, 739 pounds; Holland, 840 pounds; Germany, 1,298 pounds; Ireland, 1,364 pounds. The *per diem* consumption for England is eleven ounces per day, and Ireland, three and three-fourths pound, or nearly six times as much.

GET HEALTH.—No labour, pains, temperance, poverty, nor exercise that can gain it must be grudged; for sickness is a cannibal which eats up all the life and youth it can lay hold of, and absorbs its own sons and daughters.—*Emerson.*

On and Off the Wrestling Mat.

By "LANCASTER."

FAKED WRESTLING MATCHES.

THERE is perhaps no form of rivalry which appeals to so many classes of sportsmen as wrestling. To see pitted against each other two redoubtable champions—pictures of Nature at her best, revealing human frames of perfect formation and full muscular development—engaged in a struggle in which the skill and strength of the combatants are artfully and scientifically brought into play is a sight to appeal to all keen sportsmen and devotees of physical culture.

DECAY AND RECOVERY.

Many years back Great Britain, like the Continent, ranked wrestling among her popular sports, and encounters between recognised exponents of the art were frequently seen in different parts of the Kingdom, and to these immense crowds were attracted. But the public interest in these gladiatorial displays lessened until the sport became almost extinct.

A few years ago, however, it once more rebounded into favour in Great Britain, for, with the advent of several noted Continental champions, British exponents made their appearance, and their success against the foreigners gave the sport such an impetus that it quickly became one of the most profitable phases of professional athletics.

By this time music-hall proprietors and agents were assured of the public taste, and discarding what formerly were the "draws" in the variety hall, they began to secure as "stars" the best wrestlers of the day. The innovation worked wonders, and halls which hitherto had had difficulty in commanding large audiences were packed nightly.

OPPORTUNITY FOR PLUNDER.

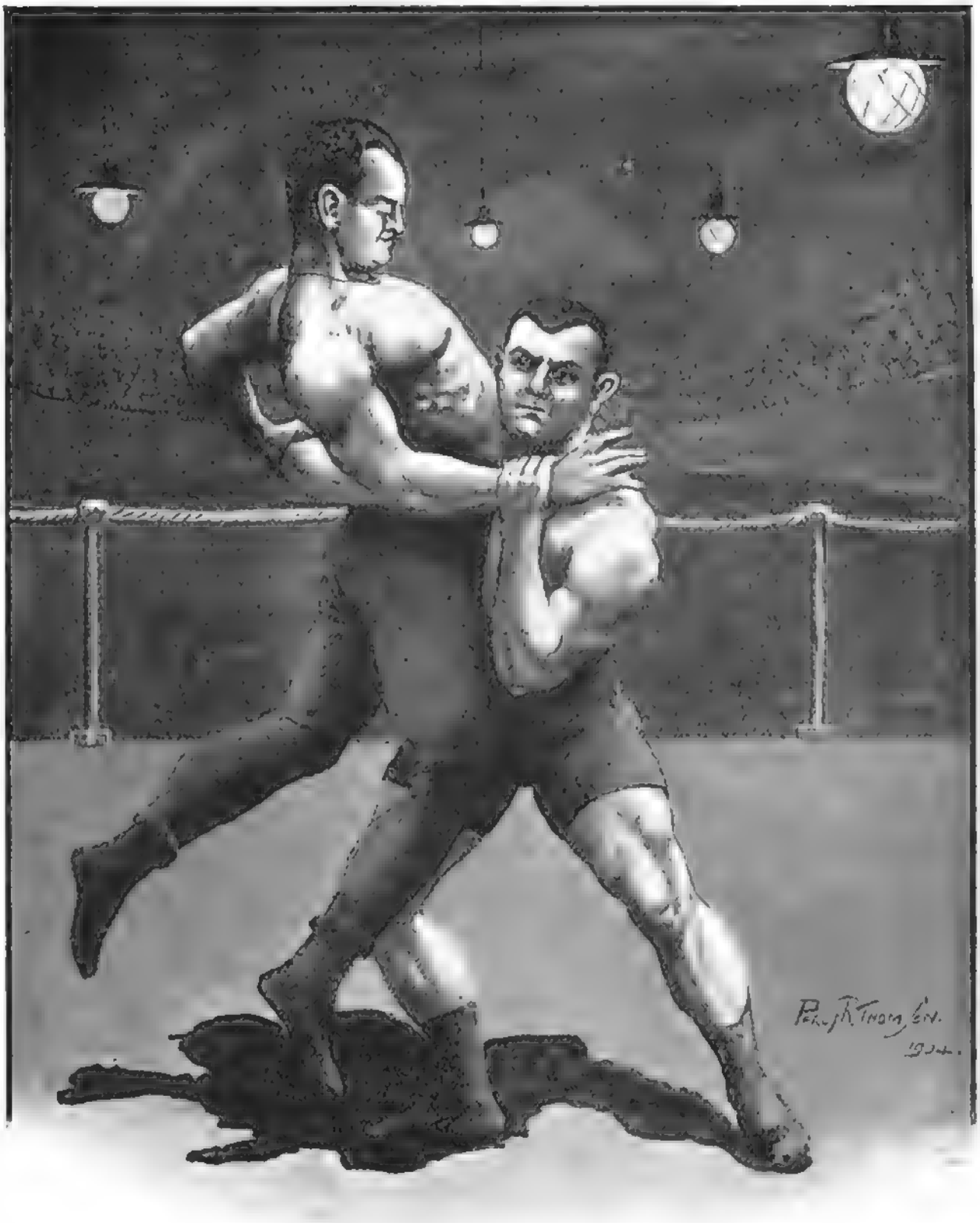
They were genuine entertainments appreciated by the patrons. But this commendable state of things was not to continue. In the blind admiration of the public the shady sections of the wrestling world scented an opportunity for plunder, and they were not slow to give their ideas concrete form — the form of faked matches. This dishonest influence is still at work, says a writer in the *Glasgow Daily Record*, eating like a canker into the very vitals of a noble sport. The public, apparently, are slow to perceive that in many of the so-called wrestling contests they are being heartlessly gulled. True, they see for their money an exhibition of the art they admire, but men who go to witness a genuine trial of strength, endurance and skill are, in many instances, utterly deceived.

Genuine wrestling, indeed, is fast becoming a thing of the past.

One instance may be cited as illustrating the difficulties which the owners or managers of places of public entertainment have to face in this matter.

In one hall some few years ago a party of wrestlers were engaged. The principal bout of the week drew a large house —indeed, the place was filled to its utmost capacity.

Just as the contest was to take place a dispute arose between the combatants as to the lines on which the bout was to proceed. One of the wrestlers declined to appear unless it was guaranteed that he would not be thrown. The proprietor of the hall was appealed to, and he firmly declined to entertain the proposal. The wrestler, however, refused to appear on any other condition, and told the proprietor that he would have to give way, as his hall was full and the money had been taken. After further useless remonstrance, the manager saw that he was in a hole and that there was no other outlet from the difficulty than complying with the demand made upon him. And the match with its pre-arranged result went on.



HACKENSCHMIDT v. MADRALI.

Mr. C. B. Cochran, acting on behalf of Hackenschmidt, has deposited £175, the balance of £200, to clinch a match between him and Madrali at Olympia, on Thursday, 28th December, providing he (Hackenschmidt) can get released from his engagements for the three weeks previous to the date mentioned. Hackenschmidt states that he requires this time as rest from his labours on the stage. Madrali's £200 stake was completed last week

Hints from Sandow

AND

Answers to Correspondents.

ALTHOUGH I have opened these pages for the purpose of coming into closer touch with my friends and readers, you must remember that space is limited, and I *cannot* prescribe courses here.

All communications relating to instruction by post should be addressed to me at Basing House, Basinghall Street, E.C., and these will receive prompt attention.

Ordinary replies cannot be answered by post.

G. L. H. (BRISTOL) has head noises and wants to know cause and cure.

Answer.—Such noises generally arise from disturbed circulation in the auditory apparatus. Disturbed circulation may be brought about by disturbances of the stomach. The stomach is very intimately related in its nervous supply to the heart. Most people who have serious functional derangements of the stomach think they have heart disease. The heart is in close sympathetic relation to the condition of the stomach, and no disturbance of the stomach can continue long without a sympathetic disturbance of the heart. The heart is the principal organ of circulation and, therefore, a disturbed circulation quickly results from disturbed heart action. This is how it comes about that disturbance of the stomach will cause sounds in the ear. The circulation is disturbed, and the fictitious noises are produced in the ear simply because the blood does not properly circulate within the delicate auditory apparatus upon which hearing depends.

M. L. N. (PLYMOUTH) is a victim of the morphia habit, and asks my advice, and particularly as to whether I recommend any of the so-called "cures."

Absolutely your best plan is to nerve

MUSCLE.

A Natural Method of Curing Illness without the Employment of Medicine or Drugs.

. . THE . .

Sandow Treatment

And its Beneficial Effects on the Muscular & Nervous System.

In reality, muscle plays a very important part in the health of the body, and upon the condition of the muscular tissue surrounding the various organs depends whether a person is healthy or ill.

It must be remembered that the great organs of digestion and evacuation are all enveloped in and operated by muscle.

Nervous ailments are notoriously difficult to cure. Yet in all cases of nervous disorders the Sandow Treatment has proved itself an absolute remedy. Why is this?

Simply because the treatment is based on a thorough understanding of this most delicate portion of the body, and only natural means are employed in restoring it to health.

Every nerve ends in muscle, and unless the nerve itself and the muscle are washed by rich, healthy blood, disease ensues.

Nervous Breakdowns.—Whenever a breakdown takes place there will be pain and discomfort. In order to cure, the exact area where the nerve is must be discovered; then, by skilfully directed movements, a regular supply of pure blood must be caused to travel to the spot. This is precisely why the Sandow Treatment is so successful. No medicine or drugs are employed, and instead of pampering the diseased nerve, it is toned up to a sound, healthy condition.

NERVES.

Thousands of sufferers from such ailments as **indigestion, constipation, insomnia, loss of vigour, and various nervous and functional disorders** have already found relief and cure from a course of the Sandow Treatment.

INVITATION TO INVESTIGATE.—If you are a sufferer from any of these illnesses you, too, can be cured quickly and permanently. The treatment entails no inconvenience, and is endorsed by leading medical men.

Those who are the victims of any of these ailments will be interested in Sandow's Book on "Curative Physical Culture," which describes the treatment fully, and a copy of which will be sent free to all applicants describing their ailments, so that a thorough investigation of the methods and results is made before it is undertaken. Write at once for a copy to EUGEN SANDOW, Dept. S., **17, Basinghall Street, London, E.C.**

yourself to a pledge of total abstinence. I have never yet heard of an alcoholic drunkard becoming a teetotaller *gradually*. The speciousness of the thing is too deceiving to be true. The unmistakeable bold plunge is the only way. Yes, I know all about the plausibly weak, and, therefore, rotten, methods you describe—the gradual weakening of the drug by dilution. Believe me, the right way is the only way—no half-measures. I am pleased to hear that the unhealthy craving is not so pronounced since you took up physical culture. Why not make physical culture the substitute if you must have a substitute? I promise you it will soon make you independent of its present rival.

ADMIRER (GREENOCK).—(1) Who told you that "yarn" as to "why strong men are strong?" Eunuchs are not so remarkable for strength as for effeminacy of form and voice. (2) Performers shave. (3) Legitimate satisfaction only is not injurious.

C. B. E. (WOLVERHAMPTON).—Send to the Publishing Department for my book, "Strength, and How to Obtain It." Be more practical and less speculatively theoretical. You are like the man who, on arriving at a cross-road stuck there, for fear of taking the wrong road—he got nowhere. Many would be fine examples of physical culture but for the blandishments of those twin deceivers—indecision and procrastination. Your motto *should* be: "Do it now."

GLASWEGIAN (GLASGOW) asks why some men make muscle more quickly than others. There are many factors to take into consideration. First and foremost comes the all-important factor of earnestness. Consider what being earnest means in any direction. The *principal* reason why *most* do not succeed on physical culture is that they do not put sufficient heart (mental as well as muscular effort) into it.

TOOTHACHE (SPALDING) has been troubled with toothache "for years, off and on."

Answer.—There may be an exposed live nerve or the tooth may be cavitied. In any case, you had better see a dentist. I can only express my surprise that you should feel, as you say, "surprised that physical culture has not cured it." I know I am credited by some people with claiming too much on behalf of physical culture—albeit I am always very careful in this respect, and speak only of that which I know; but I readily admit its limitations.

HOCKEY (BIRMINGHAM) wonders why it is that he is troubled with constipation. Is teetotaller, non-smoker, does clerical work, and regularly every Saturday plays hockey in winter and cricket in summer. Thinks of "going in for" Physical Culture, that is, if I think it will benefit.

Answer.—The *naivete* of some people borders on childish simplicity. Here is a man, who, no doubt, has lived a sedentary life for years, coming out of his bricks and mortar shell regularly *once a week*, and thereby wonders that he is afflicted with the most common penalty of sedentary life—constipation. Birmingham, if my memory serves me rightly, has a system of trams which convey most of its city workers right to their very door. The chances are that "Hockey" walks less than a ½-mile a day, yet he naively wonders why some part of the machinery of his body refuses to work. One and a half hours' exercise per week is certainly not sufficient to maintain health—one hour per day should be your standard, Mr. Hockey.

SANDOW'S

SPRING GRIP

FOR MEN & BOYS.

FOR LADIES & GIRLS.

DUMB BELLS

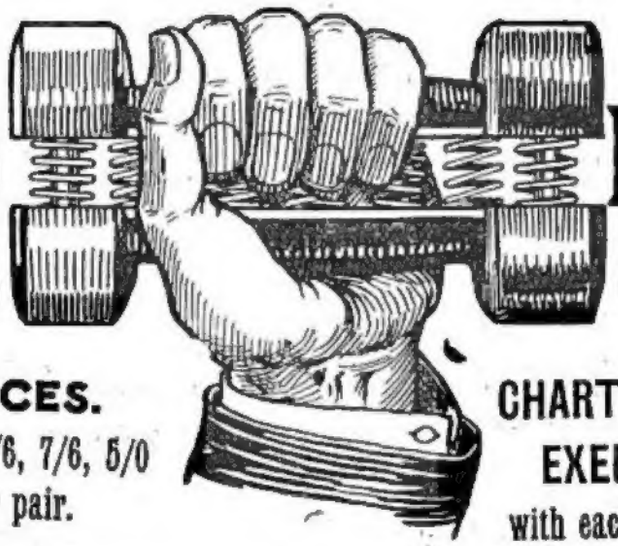


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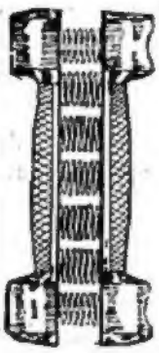
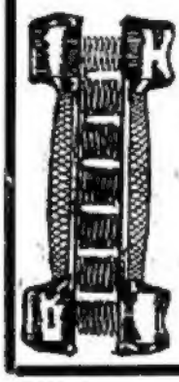
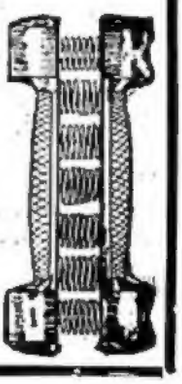
CHART OF EXERCISES with each pair.







THIS APPLIANCE IS VERY SIMPLE, and cannot go out of order. It consists of a Dumb-bell made in two halves, separated about 1 inch from one another, the intervening space being occupied by small steel springs, which may be of any strength, and easily removable to vary the resistance.

When exercising, the springs are compressed by gripping the Bells, and bringing the two halves close together, in which position they are kept until the exercise is over. They are suitable for all ages.

The pupil who possesses these Bells will find that instead of having to be continually buying heavier Dumb-bells, **One Pair will suffice him for all time.** All that it will be necessary for him to do will be to purchase, at a small expense, new springs from time to time. All pupils are advised to use the **"Grip" Dumb-Bell,** upon the merits of which I need not enlarge.

I have always taught that muscle is developed **by will-power,** not by mechanical movement, and the simple principle of this latest invention is, by calling forth a **continual Exercise of will-power, to obtain results impossible with any previous Dumb-Bell.**

Yours faithfully,

EUGEN SANDOW.

The Dumb-bells can be had from Athletic Outfitters, Sporting Goods Dealers, and Our Agents throughout the World, as well as direct from The

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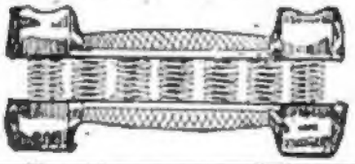
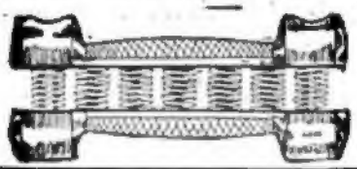
SANDOW HALL, SAVOY STREET, LONDON, W.C.





AMUSEMENTS.

THEATRES.

ADELPHI—At 8.30, "Dr' Wake's Patient." Mat. Wed. and Sat. at 2.30.

CAMDEN—At 7-45, "Romeo and Juliet."

CORONET—At 8, "Gwenevere." Mat. Sat. at 2-30.

COMEDY.—At 8.20, "The Mountain Climber," 9-0, "On the Quiet." Mat. Sat. at 3.

COURT—At 8-15, "Man and Superman." Mat. Wed. at 2-30.

CRITERION—At 8.30, "The White Chrysanthemum." Mat. Wed. and Sat. at 2-30.

DALY'S—At 8.30, "The Little Michus." Mat. Sat. at 2-30.

DRURY LANE—At 8, "The Prodigal Son." Mat. Thurs. at 2-30, Sat. at 2-15.

DUKE OF YORK'S—At 8.15, "Sherlock Holmes." Mat. Thursday at 2.15.

GAIETY.—At 8, "The Spring Chicken." Mat. Sat. at 2.

GARRICK—At 8-0, Mr. Arthur Bourchier and Miss Violet Vanbrugh in "The Merchant of Venice." Mat. Wed. and Sat. at 2-0.

HAYMARKET—At 8.30, "A Privy Council;" at 9.10, "Lucky Miss Dean."

HIS MAJESTY'S—At 8.0, "Oliver Twist." Mat. Wed. and Sat. at 2-15.

IMPERIAL—At 8-45, "The Perfect Lover." Mat. Wed. and Sat. at 2.30.

LYRIC—At 8.15, "The Blue Moon." Mat. Sat. at 2.15.

MARLBOROUGH—At 7-45, "Alice-Sit-by-the-Fire." Mat. Thurs. at 2.30.

NEW—At 8.30, "The American Widow;" at 9.0, "Captain Drew on Leave." Mat. Wed. and Sat. at 3.

PRINCE OF WALES'—At 8-15, "Lady Madcap." Mat. Wed. at 2-15.

SAVOY—At 8-50, "What the Butler Saw," preceded at 8-15 by "Back to the Land." Mat. Wed. and Sat. at 2-30.

SCALA—At 8-0, "Mrs. Grundy." Mat. Sat. at 2-15.

SHAFTESBURY—At 8-15, "The Factory Fire;" at 8-45, "The Walls of Jericho." Mat. Wed. and Sat. at 2-15.

ST. JAMES'S—At 8.30, Mr. and Mrs. Kendal in "The Housekeeper." Mat. Sat. at 2.30.

VAUDEVILLE—At 8-15, "The Catch of the Season." Mat. Wed. and Sat. at 2-15.

WYNDHAM'S—At 8-45, "Public Opinion." Mat. Sat. at 2.30.

WALDORF—At 8.15, "La Main;" 8.45, "Lights Out." Mat. Wed. and Sat. at 2-15.

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